

FOUR NEW FISHES FROM SOUTH AUSTRALIA

By TREVOR D. SCOTT, B.Sc., MARINE BIOLOGIST, SOUTH AUSTRALIAN MUSEUM.

Plate xxii and text fig. 1-3.

SUMMARY.

FOUR new species of fishes from South Australia are described and figured. *Threpterus maculosus* Richardson and *Trygonorrhina fasciata guaneri* Whitley are redescribed, and keys are given for the Urolophidae and Gobiesocidae, known to occur in South Australia.

FAMILY UROLOPHIDAE.

This family contains one genus, *Urolophus*, characterized by the rather short muscular tail, terminating in a well developed caudal fin. A small adipose dorsal fin may be present or absent.

KEY TO THE UROLOPHIDAE OF SOUTH AUSTRALIA.

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|---|-------|-------|-------|-------|-------|-------|-------|-----------------------|
| 1. Disc broader than long | | | | | | | | 2 |
| Disc longer than broad | | | | | | | | 3 |
| 2. Nostrils with broad and prominent posterior lobes | | | | | | | | <i>testaceus</i> |
| Nostrils with small and inconspicuous posterior lobes | ..... | ..... | ..... | ..... | ..... | ..... | ..... | <i>expansus</i> |
| 3. Spiracle of moderate size; disc with cruceiform markings | ..... | ..... | ..... | ..... | ..... | ..... | ..... | <i>cruciatus</i> |
| Spiracle very large, more than twice as long as eye, disc spotted | ..... | ..... | ..... | ..... | ..... | ..... | ..... | <i>gigas</i> sp. nov. |

Genus UROLOPHUS Muller and Henle.

Urolophus Muller and Henle, 1836. p. 117 (Orthotype, *Raja cruciata* Lacepede).

UROLOPHUS GIGAS sp. nov.

Plate xxii.

Snout very obtusely pointed, disc oval, slightly longer than broad. Length of disc 420 mm. (1.7), width 385 (1.8) in the total length 698 mm. Skin smooth. Eye small, length 14 (3.3) in the interorbital width 47. Spiracle very large, length 29, width 18, projecting forward below to middle of eye. Tail short and muscular, length 265. Width of tail 38 at posterior insertion of

ventrals. Preocular length 110, greater than preoral length 98. Width of mouth 55, teeth small and flattened. Width of internasal valve 58. Ventral fins rather short, length equal to width of mouth.

Adipose dorsal fin small, height 10, length of base 28. Spine originating immediately behind posterior margin of dorsal fin. Origin of spine 112 from tip of caudal fin. Last gill opening only slightly behind middle of pectoral disc.

Colour. Central part of disc, tail and caudal fin dark brown, fading to light brown pectoral flaps, margin of disc off-white. A pattern of small cream spots bordering disc, passing along tail to the caudal fin. Spots aggregated to form irregular circular markings covering parts of the disc. Ventral fins bluish-grey. Ventral surface white, with a wide border coloured warm brown.

Described from a female specimen measuring 698 mm. total length, taken January, 1952, at Port Noarlunga, South Australia. Type in South Australian Museum, Reg. No. F2744.

FAMILY RHINOBATIDAE.

Body, head and tail depressed. Disc broad behind, tapering anteriorly. Orbit with low fold below eye and projecting shield above pupil. Teeth small, numerous, in pavement-like formation. Nostrils oblique. Spiracles large, close to eye. Tail muscular, wide at base, with two dorsal fins, moderate to small caudal. Pectorals extend opposite gill openings, but not on snout.

Genus TRYGONORRHINA Muller and Henle.

Trygonorrhina Muller and Henle, 1938, p. 90. (Logotype, *T. fasciata* Muller and Henle).

TRYGONORRHINA MELALEUCA sp. nov.

Snout obtusely pointed, rather short, slightly longer than interorbital width. Skin velvety. A row of thirteen spinous tubercles on median line of back, between eyes and first dorsal fin. Two more between first and second dorsals. Two rows of four tubercles situated two on either side of median line, and in line with second and third median tubercles. No tubercles near eye as in *fasciata*. Pectoral disc slightly narrower than long, its length 360 mm. (2.5) in the total length, 890 mm. Width of disc 338 (2.6) in the total length. Length of eye 23 (3.0) in interorbital width, 69.

Preocular length 92, slightly longer than preoral length, 90. Mouth large, transverse, its width 72 (1.25) in preoral length. Teeth small, surfaces smooth

and flattened, arranged in broad bands in upper and lower jaws. Width of internasal valve 78, its margin entire. Length of spiracle equal to that of eye, projecting forward below to middle of eye. Tail length 490, much longer than body. Width of tail at posterior insertion of ventrals equal to that of internasal valve. Ventral fins entirely separate, length 150. Claspers longer than ventral fins, length 180. First dorsal fin, height 70, longer than second dorsal, height 65. Distance of first dorsal from origin of tail 105 (8.5) in total length. Distance of second dorsal from origin of tail 245 (3.6) in total length. Last gill opening only slightly behind middle of pectoral disc.

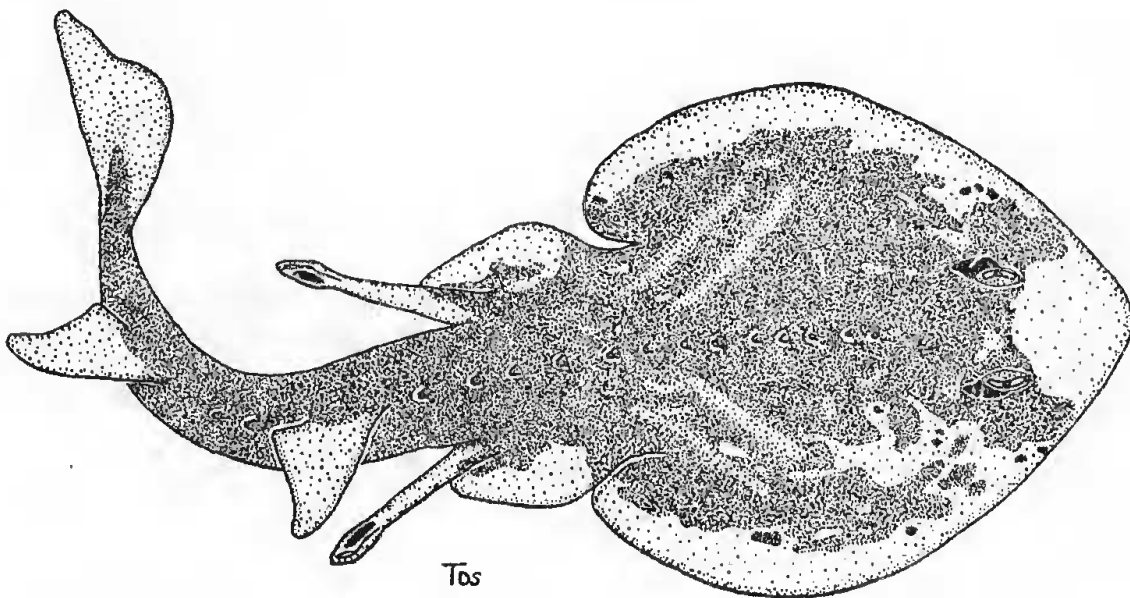


Fig. 1. *Trygonohhrina melaleuca*, holotype male from Kingscote, Kangaroo Island.

Colour. Outer margin of disc off-white. A diffuse bluish-black pattern covering all of back and upper part of tail to caudal fin. Dorsal and caudal fins off-white. Four dark grey bars at posterior end of disc, two on either side of median line, in same position as bars on *fasciata*. Claspers with a black spot on distal ends. Lower surface of body white.

Described from a male specimen measuring 890 mm. total length, taken March, 1953, at Kingscote, Kangaroo Island, by Mr. E. Sundberg, of Kingscote. Type in South Australian Museum, Reg. No. F2769.

Differs from *T. fasciata guenerius* (Whitley, 1932), the South Australian subspecies, in the colouring and pattern, absence of tubercles near the eye, smaller number of tubercles in the median line, and in general body proportions, the tail being much longer in relation to the body in *melaleuca*.

TRYGONORRHINA FASCIATA GUANERIUS Whitley.

Trygonorrhina fasciata guanerius Whitley, 1932, p. 327.

Snout obtusely pointed, short, longer than interorbital width. A row of seventeen spinous tubercles on median line of back, between eyes and first dorsal fin. Two more between first and second dorsals. Two rows of four tubercles situated on either side of median line as in *melaleuca*. Pectoral disc broader than long, its width 374 mm. (2.3) in the total length, 864 mm. Length of disc 357 (2.4) in the total length. Length of eye 24 (2.5) in interorbital width, 61.

Preocular length 93, shorter than preoral length, 100. Mouth large, its width 78 (1.3) in preoral length. Teeth very small, arranged in pavement-like formation in upper and lower jaws. Width of internasal valve 83, its margin entire. Length of spiracle equal to that of eye, projecting forward below to middle of eye. Tail length 434, slightly longer than the body. Width of tail at posterior insertion of the ventrals 74 mm. Ventral fins entirely separate, length 156 mm.

First dorsal fin, height 88, longer than second dorsal, height 77. Distance of first dorsal from origin of tail 66 (13.0) in total length. Distance of second dorsal from origin of tail 182 (4.7) in total length. Last gill opening slightly behind middle of pectoral disc.

Colour. Disc and tail brownish-grey. A number of grey bars edged with dark brown forming a characteristic pattern on the disc as in Waite's figure (Waite, 1923, p. 47). Under surface white.

Described from a female specimen measuring 864 mm. total length, taken February, 1954, in St. Vincent's Gulf, South Australia. Specimen registered F2843 at the South Australian Museum.

FAMILY CHIRONEMIDAE.

GENUS THREPTERIUS Richardson.

Threpterus Richardson, 1850, p. 68 (Haplotype *T. maculosus* Richardson).

THREPTERIUS CHALCEUS sp. nov.

D. xv. 17-18. P. 14. A. iii. 7. V. i. 5. C. 15-16. L. l. 47-48. L. t. 6:13.

Length of head 54 mm. (3.3), greatest depth of body 47 (3.8), greatest width of body 27 (6.6) in the total length 177 mm. Snout 18 (3.0), eye 13 (4.1) in the head. Depth of caudal peduncle 14. Interorbital 9. Branchiostegal rays 6. Gill rakers 16. Body slightly depressed anteriorly, compressed posteriorly. Dorsal profile strongly convex behind eye, concave above eye. Eye

eneroaches upon the dorsal profile. Mouth small, not extending back to the eye. Lips thickened. Teeth small and conical, in several rows in front of jaws, single row at sides. Vomer with a single row of similar teeth. Gill membranes united across isthmus. Gill rakers short and numerous, longest measuring 2.5 mm.

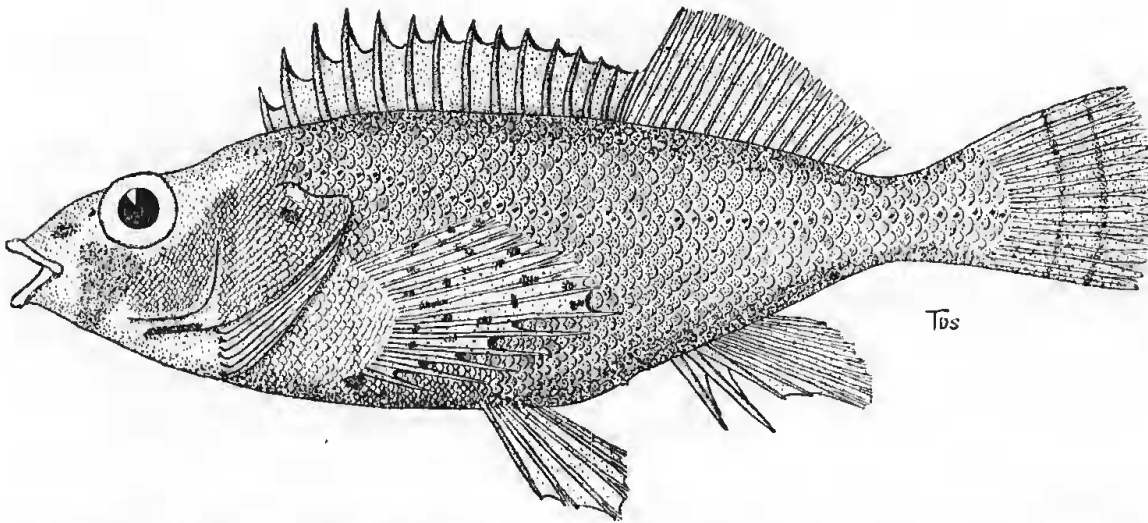


Fig. 2. *Threpterus chalceus*, holotype female from Kangaroo Island, South Australia.

Pectoral fin long, 9th ray being the longest, length 45 mm. Upper 7 rays of pectoral branched, and connected by a membrane. Lower 7 rays unbranched, the last four only joined at their bases. Dorsal fin begins above upper angle of operculum. Membrane of dorsal fin without scales. Ventral fins abdominal. Third spine of anal fin half as long as soft rays. Caudal fin rounded, length 25 mm. Scales small, preoperculum and operculum sealy, interorbital and snout scaleless.

Colour in Alcohol. Sides of body and upper parts of body dark brown. Head, operculum and ventral surface off-white with dark brown patches on the snout and under the eye. Dorsal and caudal fins off-white with dark brown bands. A small silver spot at the upper origin of the operculum.

In life, the sides and upper parts of body exhibit a bronze tint; the name *chalceus* is proposed, in allusion to the life colouration.

Similar in general appearance to *T. maculosus* Richardson, but differing in scale counts, number of dorsal spines, character of membrane of the spinous dorsal fin and the position of the silver spot on the operculum.

Described from a female specimen measuring 177 mm. total length, taken September 10th, 1952, on the West Coast of Kangaroo Island, South Australia. Presented by Mrs. I. M. Thomas of the Zoology Department, University of Adelaide. Type in South Australian Museum, Reg. No. F2729.

Genus ASPASMOGASTER Waite.

Aspasmogaster Waite, 1907, p. 315 (Orthotype, *Crepidogaster tasmaniensis* Gunther).

ASPASMOGASTER PATELLA sp. nov.

D. 8-9. P. 18-19. A. 7-9. V. i. 4. C. 13-14.

Length of head 22 mm. (2·9), greatest depth of body 10 (6·4), greatest width of body 13 (4·9) in the total length, 64 mm. Snout 6 (3·6), eye 4 (5·5) in the head. Body depressed anteriorly, compressed posteriorly. Head rather broad, snout narrow, greatly depressed. Mouth small, extending back to below anterior third of eye, jaws equal. Teeth in upper and lower jaws villiform, in a single row. Eye moderately large, oval, encroaching slightly upon the dorsal profile. Dorsal profile strongly convex from beginning of head to tip of snout, slightly convex from above origin of pectoral fin to end of tail.

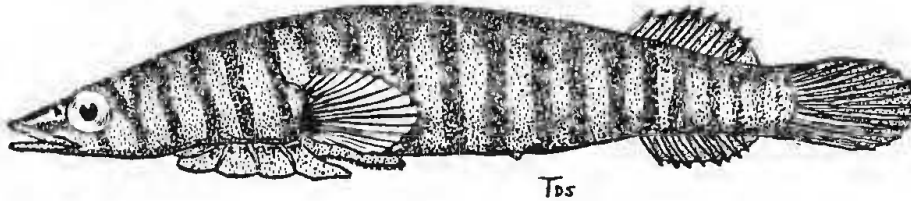


Fig. 3. *Aspasmogaster patella*, holotype from Kingston Park, South Australia.

Gill membranes united across isthmus at anterior origin of first adhesive disc. Pectoral fin short, length 8·2 in total body length. Pelvic fins attached to 17th pectoral ray. Dorsal fin small, height 16·1 in total length of body, base longer than base of anal fin. Dorsal begins more anteriorly than anal, but both are co-terminal. Caudal fin rounded, length 6·4 in total length. Anterior sucker slightly wider than body. Posterior margin of anterior sucker terminating at middle of posterior sucker. The posterior sucker does not overlap base of anterior sucker.

Posterior sucker oval, broader than long, width 5·8 in total body length. Vent mid-way between posterior margin of this sucker and origin of anal fin.

Colour in Alcohol. Yellow ochre, with twenty-one reddish-brown bars almost completely encircling the body. One of these bars crosses the snout, three bars pass from eye to eye, and the remaining seventeen bars, which are fairly uniform in thickness, lie between the eyes and the tail.

A single bar passes down either side of the snout from the tip of the upper jaw to the eye.

Aspasmogaster patella is closely allied to *A. tasmaniensis* (Gunther), but differs in possessing twenty-one cross-bars, compared with fourteen in the latter. The dorsal fin is not connected with the base of the caudal fin in *patella*, and body proportions differ considerably from *tasmaniensis*.

Described from a specimen measuring 64 mm. total length. Other specimens measuring 72, 56 and 57 mm. were collected with the type specimen in shallow pools at Kingston Park, South Australia, on September 26th, 1953, by biology students of the University of Adelaide. Type in South Australian Museum, Reg. No. F2788.

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